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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,801	09/08/2003	Camillo Bresolin	854063.730	1152

500 7590 06/06/2005

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EXAMINER

VANORE, DAVID A

ART UNIT PAPER NUMBER

2881

DATE MAILED: 06/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/657,801

Applicant(s)

BRESOLIN ET AL.

Examiner

David A. Vanore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 21-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 21-23, 25-28 and 30-33 is/are rejected.
- 7) ☒ Claim(s) 5-9, 24 and 29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 September 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Double Patenting

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Applicant is advised that should claim 30 be found allowable, claim 31 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 21-23, 25-28, and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art contained in the specification at pages 1-4 and Fig. 1, and further in view of Sakai et al.

Regarding claim 1, Sakai et al. teaches a charged particle implanting apparatus comprising an implantation chamber (Fig. 1 Item 1) having a vent inlet (19), a vacuum pump coupled to the chamber (6), and a means for connecting the vent inlet to a source of a fluid containing oxygen (Items 20a and 20b coupled to a source of O.sub.2 gas Col. 3 Lines 47-54).

Regarding claim 2, Sakai et al. teaches all the required limitations of claim 1, but fails to teach that a source of oxygen is environmental air. To the contrary, Sakai et al. teaches that a dedicated source of oxygen gas is used (Note the citation above).

The specification at page 4 recites that the mechanism for decontamination of the chamber is the oxygen contained in gas supplied to the chamber in a cleaning operation. Sakai et al. similarly teaches the use of oxygen as a means for cleaning an irradiation chamber (Col. 5 Lines 14-36).

Sakai et al. further teaches that valves (20e) control the amount of gas supplied to the chamber. Therefore, a desired amount of oxygen can be admitted into the irradiation chamber of Sakai et al. using a dedicated source of oxygen gas.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use environmental air as an oxygen supply because the

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environmental air is plentiful, cheap, and contains oxygen in relatively consistent concentrations.

Regarding claim 3, the means for connecting are tubes and are connected to the vent inlet of the chamber (Note Fig. 1 and Col. 3 Lines 47-54 describing the arrangement). Tubes are substantially equivalent to pipes as a conveyance for a fluid medium.

Regarding claim 4, the pipe (18) further comprises flow control means (20b and 20c) which control the amount of mass flow there through.

Regarding claims 21, 23, 25-26, 30-31, and 33 Sakai et al. teaches an implantation chamber (Fig. 1 Item 1), a vacuum pump (6), a decontaminating means comprising an oxygen source (Col. 3 Lines 47-54), a first valve between the implantation chamber and vacuum pump (Note Fig. 1, adjacent pump 6 is indicated a valve by the box with containing an "x", similar to valve means 9), and a second valve between the oxygen source and the chamber (Fig. 1 Items 20e).

Sakai et al. fails to explicitly teach a control means for opening the first valve to create a vacuum during implantation, and opening a second valve during decontamination. However, Sakai et al. teaches that irradiation of the target is undertaken in vacuum for a protracted period, then the oxygen is introduced to

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decontaminate the chamber, following decontamination, exposure is resumed (Col. 2 through Col. 3 Line 2 and Col. 4 Lines 3-28).

The admitted prior art contained in the specification at pages 1-3 and illustrated in Fig. 1 of the instant application teach a controller 12 having a driving circuit 12b divided into two control branches coupled to control assembly 6 which selectively inhibits or disconnects the vacuum pump of the admitted prior art (Cryopump 4), from the implantation chamber by articulating the vacuum valve (5). As taught in the admitted prior art contained in the specification, this allows implantation of different ionic species in crossover operations.

Providing a controller to accomplish the decontamination method performed by the exposure and decontamination system of Sakai et al. automates or optimizes the user's ability to regulate the decontamination of the implantation chamber.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a controller to operate the first and second valves because the device of Sakai et al. performs the evacuation and decontamination functions by regulating the pressure and oxygen gas flow in the implantation chamber. Using a controller reduces the number and complexity of operations, which a human operator would need to perform.

Regarding claims 22, 27, and 32, note the rationale applied to claims 2 and 25 above.

Regarding claim 28, note the rationale applied to claim 4 where a mass flow controller performs the same essential function as a flow-rate metering valve. Both control the quantity of gas flowing through themselves.

Allowable Subject Matter

Claims 5-9, 24, and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 5, the prior art shown in Fig. 1 describes the protection valve between a vacuum pump and implant chamber and further a control unit for controlling the protection valve. However, the main reason for indicating that the claim contains allowable subject matter is that the prior art fails to disclose that the flow rate control means is a venting valve controlled by a device control unit. As pointed out in regards to claims 1-4, most notably claim 4, the flow rate control means is a mass flow controller. The prior art does not teach that a such a mass flow controller necessarily describes a vent valve coupled to a source of environmental air as required in the claims on which claim 5 depends. Claims 6-9 are similarly objected to by virtue of their dependency on claim 5.

Regarding claim 24, the main reason for indicating that the claim is allowable is that the prior art fails to teach or suggest the switching module recited in the claim. Switching module (Fig. 2 Item 30 of the instant application), is one of the two main features which differentiate the instant invention over the prior art disclosed at pages 1-4 of the specification.

Regarding claim 29, the main reason for indicating that the claim contains allowable subject matter is that the prior art fails to teach or suggest the apparatus of claim 28 and further providing a particulate filter on a vent pipe which serves as an inlet for decontaminating gas supplied to an ion implantation chamber.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A. Vanore whose telephone number is (571) 272-2483. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on (571) 272-2477. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

dav



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